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CENTRAL INTELLIGENCE AGENCY

28 March 1949

INTELLIGENCE MEMORANDUM NO. 130

SUBJECT: Transportation Facilities of Germany and France, 1938 and 1948

1. Railways of Germany and France in 1938.

Both Germany and France possessed in 1938 extensive railway networks which were well developed and integrated into the existing economic structures of the two countries.

In Germany, the rail network consisted of 42,515 route miles. Of this network, the state-owned Reichsbahn operated 33,878 miles, 98.6 percent of which were standard gauge. Privately owned railways operated 2,796 miles of standard-gauge lines, which were principally of local importance only, and 5,841 miles of light narrow-gauge lines of importance only to the rural economy, particularly in the Eastern Provinces. Thus the Reichsbahn operated about three-fourths of the German rail system. Its significance to Germany's transport economy is demonstrated by the 1937 statistics in Table A, which are based on tonnage carried.

TABLE A

<u>AGENCY</u>	<u>PERCENTAGE OF TOTAL FREIGHT CARRIED</u>
Reichsbahn	73.0
Private railway lines	3.0
Inland waterways	21.5
Highways	2.5

The German rail system was second in density only to that of Belgium among European countries. It is apparent from Table C that the German system was quantitatively superior to the French system in almost every respect. Moreover, Germany maintained qualitative superiority. Although the physical extent of the German network remained virtually unchanged during the 20-year period following World War I, the degree of technical advancement in railway operations by 1938 was superior to that attained in France. Furthermore, German equipment was substantially more modern than that of France.

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In France, the network included 38,500 route miles of which the most important portion consisted of 26,000 route miles comprising the category "d'interet general." Another 12,500 route miles comprised the "d'interet local" or light railways and trams. The latter are of local importance only and will not be considered further in this study. The French system was a well-planned, well-developed network and, while not as dense as the German system, was entirely adequate for the French transport economy. As can be seen in Table C, the French network exceeded the German system in the percentage of double-tracked route mileage. This was primarily because of the unusually heavy concentration of such lines lying in the Northeastern section of France, where practically all lines are double-tracked. The system, in general, focuses upon Paris and in this respect is not quite as flexible as the German system, which has several areas of heavy line convergence. Adequate alternate routes and connecting lines, however, are available for all normal requirements. The relative importance of railways to the French transport economy of 1938 is shown in Table B, which is based upon ton-kilometers performed.

TABLE B

<u>AGENCY</u>	<u>PERCENTAGE OF TOTAL FREIGHT CARRIED</u>
Railways	58
Highways	26
Waterways	16

Table C provides comparable details concerning the two rail systems for both 1938 and 1948.

TABLE C

GERMAN AND FRENCH RAILWAY FACILITIES, 1938 - 1948

General

Item	Germany		France	
	1938	1948	1938	1948
Total route mileage (excluding light railways and tram lines)	36,780	25,000	26,000	25,800

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TABLE C (Cont'd)
Item Germany France

1938 1948

1938 1948

Total trackage (excluding light railways and track on private sidings)	79,812	63,300*	50,960	50,792
Percentage of route mileage in double or multiple tracks	35.3	30.5 ^{1/}	47.2	47.2
Density in miles of track per 100 sq. mi.	18.6	--	12.6	--
Density in mileage per 10,000 population	5.6	--	6.6	--
Percentage of total track mileage to total route mileage	217.0	253.0*	196.0	196.0

Traffic

Tons moved, in millions (excluding light railways)	520.0 ^{2/}	276.5 ^{3/}	133.0 ^{2/}	156.0*
Ton Kilometers performed, in millions*	1937 53,099	1948 47,250 ^{4/}	1937 35,300	1948 46,400 ^{4/}
<u>Equipment</u>				
Locomotives, all types, in thousands (excluding light railway stock)	22.0	24.0	17.8	13.5
Serviceability rate of locomotives in percentage	84	48	75	75
Average age of locomotives in years	19	--	29*	--
Freight cars, all types, in thousands	616.1	432.85 ^{5/}	488.0	379.06 ^{6/}
Serviceability rate, freight cars in percentage	96.0	79.5	93.0	85.0

* Notes on Page 4.

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Item	Germany		France	
	1938	1948	1938	1948
Average age of freight cars in years	22.2	25.0*	30.0*	35.0
Average capacity of freight cars in metric tons	17.5	--	15.0* ^{7/}	--

* Estimated

- 1/ Does not include the area east of the Oder-Neisse line now under Polish control. The primary cause for the postwar reduction of this figure has been the dismantling of second tracks in the Soviet Zone, where the present ratio of double track lines to route mileage is estimated to be only 3.6 percent (comparable to the prewar average of the Baltic states).
- 2/ These figures have no relation to capacity. In 1936, for example, French railways carried about 182 million tons, compared to about 251 million tons hauled in 1929. Traffic carried on German railways in 1941 represented a 76 percent increase over 1938.
- 3/ Does not include railway service freight and livestock. Estimated zonal breakdown: Bizones-176.5 million tons; Soviet zone-75 million tons; French zone-25 million tons.
- 4/ These are believed to be liberal estimates; actual achievements were probably somewhat lower.
- 5/ By occupation zones: Bizones-304,000, with 80 percent serviceable; Soviet zone-88,800, with 74 percent considered serviceable; French zone-40,000, with 65 percent serviceable.
- 6/ Does not include an estimated 40,000 former German cars now in France.
- 7/ Average car loading in 1938 was only about nine metric tons.

2. Railways of Germany and France in 1948.

The railway networks of both Germany and France suffered from extensive war damage and deterioration during World War II. In Germany, with the exception of lines used as military supply routes, railroad operations were brought to a virtual standstill. Damage was particularly heavy in industrialized areas such as the Ruhr Valley. At the time of France's liberation, only about forty percent of the 26,000 miles of railways was in usable condition and this was operated in segments. Today both systems are still far from complete recovery, but in general are meeting the minimum requirements of the two countries.

In Germany, in addition to the effects of war damage, the system has also suffered arbitrary dismemberment during the occupation in accordance with zonal demarcation lines. As a result of diverse occupational policies, the postwar status of the railways differs greatly between zones of occupation. In the Western Zones, where war damage was particularly acute, occupational authorities have sponsored the restoration of the systems on a scale which has in general matched the revival of the over-all economy in these zones. Of 2,477 railway bridges severely damaged or destroyed in the Bizonal area, 82 percent have been repaired and, although much of the restoration has been of a temporary nature, only 181 bridges still remain unusable. Railroad equipment repair facilities have been about 75 percent restored and from 80 to 90 percent of the general railroad installations are back in operation. The signal and communication system has been completely restored, with over 50 percent on a permanent basis. The progress of rail rehabilitation is expected to continue to keep pace with the planned revival of the over-all economy in the Western Zones.

In the Soviet Zone, on the other hand, a radically different situation prevails. In addition to war damage and wartime deterioration, the system has suffered severely from the Soviet dismantling and reparation program. The basic network of principal lines is still in operation, although it has now been reduced to about 8,100 route miles, and 90 percent of the formerly double-tracked lines have been reduced to a single-track status. Moreover, the rail system has steadily deteriorated since 1945 as a result of critical shortages of necessary repair materials and apparent Soviet indifference to the condition of the rail

system beyond its ability to accommodate present Soviet economic and military requirements. It is estimated that the line capacity, in terms of permissible weight per train, is about 25 percent below that in Western Germany. Although 80 percent of the 970 major bridges destroyed or heavily damaged have been repaired temporarily, many of them require restrictions in allowable loads and speed of crossing. Railway operations in general have been reduced to a primitive state, compared with their prewar condition, because of the removal as reparations of much of the automatic blocking, signal, and communications equipment.

The net effect of Soviet occupation policies has been to reduce the Eastern German railway system to a level comparable to the systems of other parts of Eastern Europe and far below the prewar condition of German railways. Because of its prewar development, however, and despite war damage and occupation, the rail network of Eastern Germany is still superior in most respects to that of the Balkan states.

On the whole, the railways of all of Germany still possess the greatest capacity of any continental European country. (The capacity is exceeded, however, by that of the Soviet system.) The German railways, for example, carried in 1948 more than twice the tonnage moved by the French railways in 1938 and about 77 percent more than the French hauled in 1948. The Soviet Zone system alone hauled almost half the tonnage carried by the entire French system in 1948.

Table D shows the approximate distribution of German railway route mileage among the zones of occupation.

TABLE D

DISTRIBUTION OF GERMAN RAILWAY ROUTE MILEAGE

Area	<u>1938</u>	<u>1945</u>	<u>1948</u>
Germany			
a. All Railways	42,515 ¹ / ₂	34,275	30,475
b. Reichsbahn	33,878	26,978	25,103

TABLE D (Cont'd)

Area	1938	1945	1948
Western Zones			
a. All Railways	22,350	22,350	22,350
b. Reichsbahn	20,830	20,830	20,830
Soviet Zone			
a. All Railways	20,165 ^{2/}	11,925	8,125 ^{3/}
b. Reichsbahn	13,048	6,148	4,273
Loss to Poland			
a. All Railways		8,240	
b. Reichsbahn		6,900 ^{4/}	
Loss through dismantling (Soviet Zone) and to District of Koenigsburg			
a. All Railways			3,800 ^{5/}
b. Reichsbahn			1,875

1/ Includes, in addition to the Reichsbahn, 2,796 miles of private lines and 5,841 miles of light railways.

2/ Includes, in addition to the Reichsbahn, 1,397 miles of private railways and 5,720 miles of light railways.

3/ State railways (Reichsbahn) are listed separately for the Soviet Zone only in the interest of uniformity, since virtually all railways in that zone have been expropriated and are now state-operated. Approximately 90% of the formerly double-tracked lines in the Soviet Zone have been reduced to single-track status.

4/ About 3,200 miles were double-tracked.

5/ Includes 1,875 miles of standard gauge Reichsbahn lines and 1,925 miles of light railways.

In France, the entire system is back in operation and carried more tonnage in 1948 than in the last prewar year, 1938, in spite of the necessity of operating with less equipment. This was accomplished primarily by more efficient use of available equipment. By the end of 1948, permanent reconstruction of the French national railway system had progressed to the extent indicated in the following table.

TABLE E

<u>AREA</u>	<u>PERCENTAGE OF RECONSTRUCTION COMPLETED, 1948</u>
East	43.7
North	57.5
West	72.3
Southwest	58.2
Southwest and Mediterranean	66.2
Over-all reconstruction	57.2

Of the 2,603 railway bridges heavily damaged or destroyed during the war, 1,918 have been permanently restored and 517 restored on a temporary basis. Furthermore, 67 of the 70 damaged tunnels have been repaired and 2,875 of the 3,000 miles of damaged trackage are now restored.

Although more tonnage was transported in 1948 with less equipment than in 1938, the actual capacity of the French railway system was probably about 25 percent less than in 1938, as freight traffic carried in that year was below the total carrying capacity of the system. The principal restriction upon the present capacity of the French railways is the shortage of equipment.

3. Highways of Germany and France in 1938.

Both Germany and France possessed extensive road networks in 1938 which were entirely adequate for all normal requirements. The French system, however, was both qualitatively and quantitatively superior to that of Germany. Table F compares certain general features of the highway facilities of the two countries in 1938.

TABLE F

GERMAN AND FRENCH HIGHWAYS, 1938

	<u>Germany</u>	<u>France</u>
Total mileage	133,428 ^{1/}	394,437 ^{2/}
Road mileage per square mile of area	.73	2.0
Population per mile of road	527	107
Total vehicles	1,707,496	2,251,300
Passenger cars	1,305,608	1,745,000
Busses	20,792	38,500
Trucks	381,096 ^{3/}	467,800 ^{4/}
Tonnage moved in long-distance haulage	15,148,000 ^{5/}	Not available

In Germany, the general haphazard development of the road network was not designed for long-distance traffic. The Autobahnen, or super-highway system, was intended to alleviate this condition and, although the system was not completed by 1938, it had provided several long-distance highways of both economic and strategic importance. This super-highway program comprised six principal highways, including two crossing the country from north to south, three from west to east, and another from northwest to southeast. At the beginning of 1938, there were 1,243 miles of super-highways open for use.

1/ Mileage by categories: (a) national super-highways (Reichsautobahnen)- 1,243; (b) national roads - 25,676; (c) state roads, first class - 52,354; and (d) state roads, second class - 54,155. These figures do not include approximately 55,000 miles of municipal and suburban streets.

2/ Mileage by categories: (a) national roads - 50,125; (b) departmental roads - 158,687; and (c) local roads - 185,625.

3/ Includes 26,600 trucks used in long-distance haulage.

4/ Includes 17,800 Diesel units.

5/ This figure is for 1937 and does not include local and short haulage, which constitute the greatest proportion of vehicle tonnage.

Motor vehicle haulage in Germany was substantially restricted until 1938 by discriminatory regulations which favored the railways. When these regulations were removed in 1938, truck traffic had already begun to suffer from shortages of gasoline, rubber, and other essential materials. As a result, motor vehicles have never played an important role in the German transport economy.

The best main roads in Germany in 1938 were equal, in general, to the highest European standards. If all German roads are taken into consideration, however, they compared unfavorably with those of France, having inferior surfaces and smaller average widths.

The French road network, which in 1938 was more extensive and of better quality than the German, is evenly distributed throughout the country. In general, it follows the railroad pattern, but the system is densest in the north and northwestern portion of the country. Motor vehicular freight traffic was primarily of local and short-haul importance, although in 1938 the trucking industry was further developed than it was in Germany.

4. Highways of Germany and France in 1948.

In both France and Germany the highway systems are adequate. Although maintenance has suffered as a result of shortages of materials, and reconstruction of road bridges on a permanent basis has been slow, the systems are both back in operation on an entirely satisfactory scale. The acute shortage of freight-carrying vehicles has prevented the maximum exploitation of the networks, and in France, where local trucking demands are particularly heavy, this has been a cause of serious concern. Both systems, however, compare favorably with their prewar condition as to extent and adequacy, and aside from the shortage of equipment, the capacities are essentially the same as they were in 1938.

5. Inland Waterways of Germany.

a. Significance.

Germany's extensive inland waterway system in the prewar years carried about 20 percent of the country's inland freight. Cargoes consisted principally of coal, ore, and grains. The inland waterway system broadened the German transport network and lightened the burden on the

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railroads. The Nazis, recognizing the economic and military significance of this factor, accelerated the development of an ambitious inland waterways program in the middle thirties. Work on the program did not cease, furthermore, until Allied armies were pressing against the German frontiers in 1944.

Inland waterways will continue to be as significant in the German economy as they were before the war. Railroads are far below normal standards, particularly in Eastern Germany, and there is a shortage of trucks for highway transport. Because of the significance of coal and industries in the Ruhr to German economic recovery and to the European Recovery Program, barge movements of coal and other bulk cargoes to and from the Ruhr have become of increased importance.

Inland waterways are important to Eastern Germany as well as to the industrial areas in the West. The system connects the Baltic ports with the hinterland, linking the important Silesian industrial area with deep water. The potential military importance of these traffic lanes is considerable.

b. Traffic.

In 1910, Germany's inland waterways carried 65 million tons of freight. By 1937, this traffic had increased to an estimated 133 million tons annually, of which the Rhine alone carried about 75 million tons (as compared with 27.6 million tons on the Mississippi). Although traffic on Germany's inland waterways has increased steadily since the war's end, freight figures remain far below prewar levels. No estimates are available for the entire Soviet Zone for 1948, but fragmentary statistics indicate that the Zone is well ahead of 1947 tonnages. The Soviet Zone Plan for the first half of 1948 was fulfilled 100 percent, while Saxony reported that 1948 tonnages exceeded those of 1947 by over 50 percent. The waterways of the US and British Zones carried an estimated 49,189,000 tons of traffic in 1948, far less than carried annually by the Rhine River alone before World War II.

c. The System.

The total length of Germany's inland waterway system is 8,100 miles, over half of which is of first importance. This includes 1,550 miles of canals. The inland waterway system as a whole can be broken down into the following divisions:

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1. The Rhine, its tributaries and canals.
2. The Danube.
3. The Ems-Weser Region.
4. The Elbe Region.
5. Mark Brandenburg Region.
6. The Oder Region.

Broadly speaking, Germany's inland waterways are contained within the large 'L' formed by the Rhine River, running northward, and the Danube, running eastward. These two rivers, Europe's most important international waterways, rise near the German-Swiss frontier, the Rhine in Switzerland, the Danube in Germany.

Other principal German waterways are the rivers flowing northward, roughly parallel to the Rhine: The Ems, Weser, Elbe, Oder, and in prewar years, the Vistula. Intersecting and connecting these rivers, and giving the whole system a checkerboard appearance, are the canals. The Rhine and Elbe systems are the most important in Germany. These closely integrated groups in northwest Germany carried about 75 percent of the country's prewar inland waterways traffic.

The principal east-west artificial waterway is the Mittelland Canal system, which links the industrial Ruhr with Berlin and the canal system of Eastern Germany.

The Kaiser Wilhelm Canal (Kiel Canal), running 61 miles across Schleswig-Holstein to connect the Baltic Sea with the North Sea, shortens the distance between Hamburg and the Baltic by 425 miles. This canal, a very important link in the German waterways system, was built in 1887-95, at a time when Kaiser Wilhelm II's plans for a large navy were taking shape. The canal can accommodate all but the largest modern warships. It has two large and two small locks at each end to adjust the sixteen foot water-level difference. Although built primarily for strategic purposes, the canal normally carries a heavy commercial traffic. In 1937, 53,000 ships carrying 23 million tons of freight passed through the canal, but the East-West impasse has greatly reduced Kiel traffic.

d. War Damage.

World War II wrought great destruction on the German inland waterways. The final damage was imposed by Hitler, who ordered retreating armies to destroy bridges and sink barges as part of a scorched earth policy. Of the 1,724 barges previously operating in the US Zone, only 393 were serviceable in May, 1945. Of the remainder, 754 had been sunk and 577 were afloat and salvageable. There were only 61 serviceable tugs,

with 64 others sunk and 55 afloat and salvageable. War damage to the Kiel Canal, which was not serious, was quickly repaired.

e. Restoration.

The middle Rhine was opened for nominal navigation on 27 August 1945, 6 weeks after the armistice, and by November, 1945, the Rhine, Neckar, Main, and Danube were open to restricted traffic. The US military Government reported in December, 1947, that practically all major restrictions to Rhine River traffic had been removed. Minor hindrances remained in the Rhine, but barge turn-around time had been reduced to better than prewar efficiency. The important Mittelland Canal was re-opened in 1946 despite serious damage. One destroyed section of the canal has been successfully by-passed.

Waterway conditions in the Soviet Zone of Germany after the war were comparable to those in the US and British Zones. In the Soviet Zone, there are 2,447 miles of waterways. By October, 1946, all but 435 miles of this had been made navigable, nearly 800 craft had been salvaged and largely reconditioned, and a large percentage of the 514 destroyed bridges had been repaired. By April, 1948, all the principal waterways in Eastern Germany were reported cleared and open for traffic. Work is continuing on the smaller canals.

f. Impediments to Recovery.

German inland waterway recovery has been hampered by various factors, particularly the shortage of barges. This handicap will persist until the German economy has recovered sufficiently to build new equipment.

The East-West political situation has seriously hindered recovery by cutting the German inland waterway system in half. Furthermore, when the Russians applied the Berlin blockade, they halted barges moving from the west along the Mittelland Canal, as well as traffic moving up the Elbe from Hamburg.

Traffic between the upper and lower Danube has been virtually halted by the USSR and the Satellites. At the Danube Conference in Belgrade in the summer of 1948, the Soviet bloc imposed a new Danube Convention which placed the middle and lower Danube under Soviet domination. This action destroyed the century-old concept of the Danube as an international waterway.

6. Inland Waterways of France.

a. Significance.

Inland waterways presently account for about 10 percent of total French domestic traffic, considerably below their 1938 level of 16 percent. Furthermore, it now appears that the inland waterways of France will probably not regain their prewar importance. (ECA traffic estimates indicate that in 1951 tonnages hauled in France will be nearly double those of 1938, but that waterways will take only about 10 percent of that total.)

The value of the French inland waterway system lies principally in the extent to which it relieves the railroads of carrying bulk commodities such as minerals, fuels, building materials, and foodstuffs. Coal from the northern fields is moved to the industrial area around Paris, and foods are transported from the Rhone Valley up the Saone. This is the chief purpose to which the Germans put the system during the occupation period.

While the waterways of southern France are less important from a commercial point of view than those of the north, they assume greater strategic significance, since they furnish a link connecting the Atlantic Coast, northern France, and Germany with the Mediterranean. During the war, for example, small German submarines and other craft were transported across the Rhone-Rhine Canal and via the Saone and Rhone Rivers to Marseilles. In addition to this naval traffic, about 600 barges per month used this route in each direction. Transport from the Atlantic to the Mediterranean is effected via the Seine, Yonne, Saone, and Rhone Rivers.

b. Traffic.

In 1938, inland water traffic in France totaled 8.3 billion ton-kilometers. The major portion of this traffic consisted of coal, coke, building materials and other bulk cargoes too expensive to move by rail. Tonnages moved in 1938 totaled about 45 million metric tons.

In the postwar period, tonnages moved via inland water have been far below prewar, despite the fact that overall tonnages now

approximate or slightly exceed 1938 levels. In 1946, ton-kilometers totaled 4.1 billions, while tonnage moved in 1948 is estimated at 6 billion ton-kilometers and 35 million tons hauled.

c. The System.

The inland waterways of France comprise 9,320 miles, of which only 5,965 miles (2,796 miles of rivers and 3,169 miles of canals) are commercially important.

During the past fifty years, France has not kept pace with the waterway development of her neighbors. Between the two wars, only local improvements were made and large barges of Dutch and Belgian types can not generally be accommodated. Standard loads remain at about 300 tons, with only a few sections capable of handling larger craft. Canals on which tugs do not operate are generally equipped with mechanical or electric traction or rails for the principal systems (such as Paris-Pas de Calais), and with electric or Diesel tractors on tires for the smaller networks. On the rivers, tugs are used. Some of the more important routes (such as those linking Paris to the coal regions of the north) permit a draft of 6 feet, 6 inches and a 350 ton load. In the south and west, where the canals are of little economic importance, the load is generally limited to 200 tons.

The Havre-Rouen-Paris segment of the Seine is the most important waterway in France. Seine traffic consists principally of motor-driven or towed barges carrying between 400 and 1,500 tons. These waterways are also used by small ocean-going steamers carrying 300-500 tons direct from England or Holland.

France's second most important waterway is the Rhine, which runs for 115 miles along the French frontier between the Swiss border and Lauterburg. On this international waterway, the status of France's trade is closely connected with the general level of Rhine traffic. The Rhine permits navigation during the spring and summer months and the variable autumn floods. Winter, however, is a low-water period, and traffic is somewhat hampered.

While small ocean-going vessels navigate the Rhine to Cologne, traffic in general, consists of tug-drawn barges. Barges are generally

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of the standard 'Rhein-Herne Kanal (RHK)' type, displacing 1,350 tons, although there are some Dutch types (Grotius) of more than 3,500 tons. The tendency toward self-propulsion is increasing, the standard barge type being of 450 h.p., carrying over 900 tons.

The Rhone system, with the Saone, assures a north-south link between the Mediterranean and the center and northeast of France. The Rhone is accessible to barges carrying between 400 and 700 tons, depending on the flow of water. The river has a rapid current and frequent periods of high and low water. These conditions may be changed somewhat by installation of locks along the Rhone.

The Meuse, Sambre, and Scheldt all have their sources in France and provide communications links with the Dutch and Belgian systems. A study is now underway to determine how these rivers can best be joined by a canal system. The Saone has a gentle slope, a regular flow, and is adequately harnessed by locks and dams. It is accessible to Rhone barges as far as Chalons-sur-Saone, where transshipment to canal-type barges is necessary for movement into France and Germany.

The Loire (above Nantes) and the Garonne (above Bordeaux) have lost their navigational importance, and are now significant largely for the water supply they provide other installations.

d. War Damage.

As a result of the war operations of May and June 1940, navigation became impossible over 3,227 miles of the waterway system and about 1,350 installations were destroyed. During the Allied invasion of the continent, 1,530 works were destroyed, including 940 road bridges. An additional 210 bridges were destroyed in the eastern sector, which was liberated later. More than 2,500 barges (over 20 percent of the inland fleet) were destroyed or disappeared; another 5,000 barges were damaged.

e. Restoration.

Reconstruction of the French waterways has been relatively rapid. By the end of 1945, navigation was possible on all systems except parts of the canalized Moselle. By June 1946, the entire system

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was back in operation, although on a reduced scale in some areas because of the temporary nature of the reconstructed installations. These temporary facilities are now being replaced on a permanent basis; for example, temporary bridges are being replaced by bridges of the proper width and clearance. The war period of deferred maintenance on the waterways, however, has resulted in slower operations and reduced services. This, in turn, has had a retarding effect on the country's over-all economic recovery.

With respect to the barge fleet, a substantial number of barges have been refloated, and major construction programs have been inaugurated to replace the 2,500 barges which were total losses. Efforts to rehabilitate the inland fleet have been severely hampered by budgetary restrictions, however, and it will probably be several years before the prewar (1938) fleet level of 4.2 million DWT is reached.

The primary remaining task of rehabilitation is the continuation of repairs and the replacement of temporary installations. Long-range projects include deepening of heavily traveled routes to 8 feet, 6 inches and studies of the feasibility of linking the Seine and Scheldt systems and improving the Seine to permit 1,200-ton barges to reach Paris regardless of water conditions along the route.